

## REMARKS

Claims 1-5, 7, 11-14, 16-20, 23-25 and 27-28 have been canceled without prejudice or disclaimer. Claims 29-45 have been added and therefore are pending in the present application. Claims 29-45 are supported throughout the specification, including the original claims. The % identities recited in claims 29-35 are supported by, e.g., original claim 2. Furthermore, claim 38, which is directed to fragments, is supported by, e.g., page 8, lines 15-17 of the specification.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

### **I. The Rejection of Claims 2, 5, 7, and 28 under 35 U.S.C. 112**

Claims 2, 5, 7, 28 are rejected under 35 U.S.C. 112 as being indefinite. 1-5, 7, 11-14, 16-20, 23-25 and 27-28 have been rewritten as claims 29-45 to address the Examiner's objections.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

### **II. The Rejection of Claims 1-5, 7, 11-13, 24, and 28 under 35 U.S.C. 102**

Claims 1-5, 7, 11-13, 24, and 28 are rejected under 35 U.S.C. 102(b) as anticipated by Isono et al. (U.S. Patent No. 3,655,570) as evidenced by Isono et al. (U.S. Patent No. 3,655,570) and Esaki et al. (*Arch. Microbiol.* 161: 1120-115 (1994)). Specifically, the Office states that "Isono et al teach an alkaline protease isolated from *Fusarium solani* that shows activity in a detergent composition (Table 5). More likely than not, Isono's *F. solani* alkaline protease has thermostability, since an aminotransferase isolated from *F. solani* has thermostability (Esaki et al; Abstract). Since the protease of SEQ ID NO: 2 is from *F. solani*, the skilled artisan would believe that, more likely than not, Isono's protease isolated from *F. solani* is the same as the protease of SEQ ID NO: 2 herein." This rejection is respectfully traversed.

The Isono et al. patent, which is owned by Takeda Chemical Industries, Ltd., discloses an alkaline protease obtained from *Fusarium sp.* S-19-5 (IFO 8884). The amino acid sequence of this alkaline protease is not disclosed.

Many years after the filing of the Isono et al. patent application, Takeda disclosed the amino acid sequence of the *Fusarium sp.* S-19-5 alkaline protease in U.S. Patent No. 5,543,322 and Morita et al., 1994, *Biosci. Biotech. Biochem.* 58(4): 621-626 (a copy of which is attached hereto). The characteristics of the alkaline protease described in the 322 patent and Morita et al. are consistent with the characteristics of the alkaline protease described in Isono et al. Thus, persons

of ordinary skill in the art would expect that the alkaline protease described in the 322 patent and Morita et al. is the same protease described in Isono et al.

Furthermore, the proteases described in Isono et al. are alkaline proteases, which belong to a different class of protease than trypsin-like proteases such as the protease of SEQ ID NO: 2 of the present invention. Alkaline proteases are also known as subtilisins (see Kumar and Takabi, 1999, *Biotechnology Advances* 17:561-594, in particular page 562, first full paragraph (a copy of which is attached hereto)). According to the MEROPS protease database, alkaline proteases belong to class S8 whereas trypsin-like proteases belong to class S1. See <http://merops.sanger.ac.uk/index.htm>; Rawlings et al., 2008, MEROPS: the peptidase database. *Nucleic Acids Res.* 36: D320-D325. A copy of the summaries of classes S1 and S8 from the MEROPS protease database is attached hereto. Thus, persons of ordinary skill in the art would not believe that Isono et al.'s protease is the same as the protease of SEQ ID NO: 2 of the present invention.

Moreover, a comparison of the amino acid sequences of the Isono et al. alkaline protease and SEQ ID NO: 2 of the present application shows that the two sequences are not homologous.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 102. Applicants respectfully request reconsideration and withdrawal of the rejection.

### **III. The Rejection of Claims 24 and 25 under 35 U.S.C. 103**

Claims 24 and 25 are rejected under 35 U.S.C. 103 as being unpatentable over Isono et al. in view of Okuda et al. (US 2004/0002432) This rejection is respectfully traversed.

As explained above, Isono et al. do not teach or suggest the proteases of the present invention.

Okuda et al. disclose a detergent composition comprising an alkaline protease and one or more other enzymes. However, Okuda et al. also do not teach or suggest the proteases of the present invention.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 103. Applicants respectfully request reconsideration and withdrawal of the rejection.

### **IV. Conclusion**

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

All required fees were charged to Novozymes North America, Inc.'s Deposit Account No. 50-1701 at the time of electronic filing. The USPTO is authorized to charge this Deposit Account should any additional fees be due.

Respectfully submitted,

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/Elias Lambiris, Reg. # 33728/  
Elias J. Lambiris, Reg. No. 33,728  
Novozymes North America, Inc.  
500 Fifth Avenue, Suite 1600  
New York, NY 10110  
(212) 840-0097